

April 30<sup>th</sup>, 2019

## **“Multidisciplinary Qualities of Systems Medicine” - the pleasure of working with bioinformaticians, medical doctors and philosophers**

**Astrid Lægreid**

Norwegian University of Science and Technology, NTNU,  
Trondheim, Norway

*This seminar was part of the BioInfo4Women series.*

### **Abstract**

The biological sciences are producing impressive amounts of information about how cells function in normal and diseased states. It is now becoming possible to use computers to accurately model the behaviour of cells and predict how they will respond to changes in the environment, or to drugs.



The NTNU project DrugLogics aims to develop and integrate computational, experimental and analytical approaches to predict and validate anti-cancer drug combinations and produce an integrated pipeline for rational screening of synergistic drugs and for clinical decision support in precision medicine.

Scientists from many different backgrounds work together, in order to develop the different technologies and approaches that need to be integrated in order to efficiently use what we know about specific cells in the design of computer models that can mimic cells' and tumours' behaviour and that can assist hospital doctors in selecting therapies tailored to individual patients. The project reflects on the developing ecosystem of publicly available knowledge and databases - the Knowledge Commons, for which systems medicine is a key visionary driver.

### Short bio



Astrid Lægreid is professor in Functional Genomics at the Department of Clinical and Molecular Medicine, Norwegian University of Science and Technology, NTNU, Trondheim. She studied biochemistry, mathematics and musicology before completing her biochemistry master

(1982) and PhD (1985) at the University of Oslo. During her post doc in UK and Norway, she entered the field of molecular biology. Lægreid played a central role in the establishment of the Norwegian

national functional genomics research programme where she also headed the NTNU platform-node of the National Consortium of Microarray Technology.

Lægreid has pursued epistemic and socio-ethical questions as a central part of her efforts to transform her cancer research strategies from traditional molecular cell biology into a systems biology approach.